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Cancer and the Public Health

*Addresses delivered at a meeting for health officers, January 29,
1916, arranged by the Boston Local Committee of the
American Society for the Control of Cancer*

BY

FRANCIS CARTER WOOD, M. D.

*Director of Cancer Research
George Crocker Special Research Fund
Columbia University, New York*

EDWARD REYNOLDS, M. D.

*Chairman of the Boston Local Committee
Vice-president of the
American Society for the Control of Cancer*

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*Director of Division of Communicable Diseases
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PUBLICATIONS OF THE
AMERICAN SOCIETY FOR THE CONTROL OF CANCER
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BOSTON LOCAL COMMITTEE

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CANCER AND THE PUBLIC HEALTH

FRANCIS CARTER WOOD, M. D.

It is always a peculiar pleasure for me to appear in Boston, for I have many friends here who are interested in the questions upon which I am to speak to-day. I am also glad to address the members of the State Board of Health and the visiting nurses who come in contact with many of the unfortunates in whom cancer has gone beyond the stage of cure; and it is an additional pleasure to represent the American Society for the Control of Cancer, which is a rather recent organization devoted wholly to the propaganda for controlling cancer by insisting on its curability by early operation, its widespread occurrence, and other interesting and important facts which the public should know. In the United States we are very particular about our animals; we prevent the farmer from keeping a cow with tuberculosis; but we allow the head of a family to keep children with as many diseases as they care to collect. We regulate our animal population; but we neglect the human race. What the publicists and health officers, however, are now trying to do is not to regulate too much, not merely to pass laws, because laws are of very little importance unless people have intelligence enough to understand the reason for the laws, and hence to obey them willingly; but to educate the public on this subject of cancer.

Now, why are we all so interested in cancer? Why was this American Society for the Control of Cancer started? The reason is, I think, that, in the first place, cancer touches every one of us, because it is a disease which strikes quietly and without warning at those for whom we care the most. It strikes our parents, our friends, as they get to middle-age, since cancer is a disease most

prevalent after the age of forty, and, therefore, touches people in the full strength and vigor of their lives, people at their most useful period; and, in the second place, it is hopeless, absolutely hopeless, if it goes too far. That is one of the sad things about cancer—the very hopelessness of it. There is always hope in tuberculosis; the patient himself is cheerful over his trouble; there is the possibility of cure. But when cancer goes too far, there is no cure; and yet the mind remains clear and the slow progression of the disease makes prominent the peculiarly bitter aspect of this condition. The importance of realizing that every second lost, in deciding whether the patient has or has not cancer, renders the final chance for cure just so much less, is beginning to be appreciated. The practicing physician has in the past been held responsible for the spreading of information concerning cancer; but the physician individually is a very busy man, and if he graduated thirty years ago, he does not know quite so much about cancer as he might. The duty of publicity is to-day, therefore, falling more and more into the hands of the health officer; and it is quite properly the health officer who should take up the cancer problem and help in the transmission of information, because, after all, the future of medicine is in prevention, and that future belongs to the officer of health. Just think what has been done in twenty years in the reduction of diphtheria; think that if every person would take typhoid vaccine, there would be no more typhoid fever; that if everyone with tuberculosis could be properly isolated, there would be no more tuberculosis; that if only the laws which we now have concerning the transmission of disease could be intelligently enforced and regulated, almost all of the infectious diseases would disappear.

In looking over the latest manual on the duties of health officers, by MacNutt, I find much concerning sanitation and general hygiene, but absolutely no mention of the subject of cancer; and yet the time has unquestionably come when this particular subject is to be of a great

deal of importance to officers of health. The reason is not far to seek. There are *three stages in the development of any science*, including sanitation; one, of laboratory or clinical investigation, often by persons who are not in any way connected with the work of public health, on the nature of disease, and, in some cases, on its prevention and cure; two, the transmission of this knowledge to the medical profession or the modern specialist in hygiene; three, and this is the important function of the officer of health, the teaching of such portions of this knowledge as are suitable for the lay public, to the people of the state, or town, or county which the health officer serves. This is the last phase. The cancer question has, to a certain extent, reached this point.

The laboratory investigations of the last twenty years have added much to our knowledge of cancer; but they have also brought forward one point very clearly, and that is, that for most cancers there is at the present time no certain cure except the prompt removal of the growth. It is very important that the public should be informed in definite and simple manner of this very important fact. Only the future can bring forth any cure, if such a cure is to be obtained by medical means; but physicians are still ignorant of the fact that in its early stage the disease is curable by operation. Too often in the smaller towns and in the country villages we see cases of cancer which have been allowed to become hopeless owing to the application of palliative methods, though at the time when they were first seen they were wholly operable. The profession is much more to be blamed in this regard than the public, for medical men have the means and should inform themselves of modern knowledge concerning the excellent operative results which are obtained in the early removal of tumors. In fact, however, I think it may safely be said that in the larger cities the public in general is better educated than many physicians who graduated thirty years ago. Some of these physicians do not take kindly to the suggestion that they return to their

medical schools and again take up the study of certain phases of their profession; and it is difficult to get busy men to leave their practices even to take short courses of only six weeks, such as are offered by the Harvard Medical School in the summer session, or by the various post-graduate schools in the larger cities. The demands of practice are so great, and the rewards of such practice in a financial sense so little, that these men cannot afford the time and money necessary for any extra study. If they do, they are more apt to take up some practical thing, such as the development in surgical technique or in other fields of immediate usefulness, rather than a rather abstract or laboratory subject. These physicians are the very people who need education by the public health officers, either through personal contact, or by the giving of public lectures suitably illustrated, by the circulation of pamphlets or leaflets, or by similar means. For, unfortunately, the average busy practitioner does not at the present time read very much in the standard medical publications, such as the Journal of the American Medical Association. The fact has been shown that not half the country doctors of some of the States even subscribe to such a journal; almost all their reading seems to consist of the perusal of cheap magazines issued frequently by the firms who are selling more or less doubtful medicines, very many of them quack remedies for the cure of cancer.

Public health officials have two very important opportunities in relation to this disease; one, the supervision and study of the records of large numbers of cases from a statistical point of view; and, two, the education of the public by bulletins, lectures, or demonstrations, preferably in collaboration with county or State medical societies.

What we know about cancer to-day is relatively small in amount, and there are many problems for the elucidation of which further data are needed. Some of these questions may be solved by laboratory experiments on animals, many others require statistics of human cases.

The collection of such data must be begun now in order that the material may be ready for final study ten or twenty years from to-day. That our statistics are now extremely defective is generally acknowledged. The Census Bureau has had to send some 37,000 letters to physicians asking that they make fuller and more accurate returns in cases of cancer, but even should these records be completed as requested, the data so available would be far behind those of many European countries. The statistics of hospitals alone are of but little value, because they cover only a selected material, and cannot be considered as accurately representing the normal population of the district in which the institution is situated. Such statistics give us only the proportions between the kinds of cancer which occur, and do not even furnish anything of final value concerning organ distribution; since, for example, a disproportionate number of patients with cancer of the stomach, or of the breast, or of any other organ, may be attracted to a hospital because of the reputation of a particular surgeon as an expert operator on the malignant growths of each region. There is a concrete illustration of this in the large number of thyroid tumors operated upon at the Mayo Clinic at Rochester, Minnesota. The real need is for accurate statistics by counties, as well as by States, in order that it may be determined whether there is any local variation in the different portions of a State, due possibly to the influence of climatic conditions, soil, moisture, drainage, etc., on the occurrence of cancer. To secure valuable statistical results, however, there must also be the collection of accurate census information as to the general population of the district, and the age and sex distribution; and in many States such information has not yet been obtained. When these data are once recorded, they can be used for larger purposes and are available for the publications of the Census Bureau.

The popular view that "cancer States," "cancer districts" or "cancer villages" exist has unfortunately been

fostered by physicians unacquainted with statistical methods. Much has been done in England by the Imperial Cancer Research Fund and by the Registrar General in their reports to explain the occurrence of large numbers of cases of cancer in certain districts by a study of the age distribution therein. Cancer being a disease of advanced life, it is usually found that such districts contain a large proportion of older people. In this country this is particularly marked in the New England States, Vermont and New Hampshire especially having high cancer death rates; and the condition here can be ascribed chiefly to the drift of the younger population to the large cities outside of these States, and not to inbreeding or greater liability of the inhabitants themselves.

The interest of public health officials in occupational diseases is now widespread, and it is of the utmost importance that any correlation between a particular occupation and the occurrence of cancer be carefully investigated. It is well known that the workers in brass foundries are liable to cancer of the upper extremities, chimney sweeps and briquette workers to cancer of the scrotum, those employed in the manufacture of certain synthetic coal tar products to cancer of the bladder, and x-ray operators to cancer and leukemia; but there are many occupations concerning which no information of this sort is as yet available, and this can be obtained only through the authority of State Boards of Health and with the concurrence and active interest of health officials. The importance of records of this sort in determining the rates for industrial insurance and workingmen's compensation is obvious, though apart from the cancer problem.

Writers differ greatly in their published statements concerning the correlation between trauma and malignant disease. The tendency in the past has been to assume that even a single injury may cause a cancer; but recently this view has been challenged from many sides and it is now generally believed that a single injury, unless it produces prolonged ulceration, as, for example,

an x-ray or metal burn, is of little importance in the genesis of cancer; it is thought rather that only long continued irritations extending into adult life, that is, into the period of susceptibility to cancer, are of any influence. The medico-legal interest in these facts needs no consideration here. With the data which will accumulate from the records of the Employers' Liability laws, it may not be impossible to cast some light upon this supposed relationship within the next twenty years, but the work must be started now in order that sufficient facts be available later.

With the increase in the laws regarding notification for venereal disease, and the general employment of the Wassermann test, it is beginning to be possible to study the relationship between cancer and syphilis. So far, attention has been directed in this connection chiefly to cancer of the tongue, which seems often to have a syphilitic basis. In addition, the relationship between cancer and syphilis, and between cancer and the excessive use of alcohol and of tobacco can be studied much better from broad general statistics than from the collection of small numbers of cases such as pass under the observation of the individual surgeon.

While there is little reason at the present time to believe that heredity plays an important part in the occurrence of cancer, yet certain experiments in breeding mice, as for instance those carried out by Dr. Tyzzer of the Cancer Commission of Harvard University, have suggested that in these animals at least, and in certain strains only, cancer may be subject to the laws of heredity. That these observations apply to human beings is doubtful, for they are not observed in other strains of animals, or even in all breeds of mice, and the question can be settled only by very extensive statistical studies on man, which are of much more final value than breeding experiments in animals. A physician unacquainted with statistical methods may observe three cases in one family and, therefore, conclude that it is hereditary. I remember

talking with a very delightful old Southern surgeon who told me of an instance that proved cancer to be hereditary in certain families. This same surgeon was very fond of certain occupations, and he used to take great pleasure in spending hours waiting for a combination of four aces to appear in a hand of cards. When he got this combination he did not think it was hereditary; he thought it was good luck! The same law applies in the cancer problem to the finding of three or four cases of the disease in one family. In any community of several thousand, the probable proportion of cancer can be worked out mathematically. The occurrence of two or three cases, therefore, in a family does not necessarily mean that cancer is hereditary. Such information of fair accuracy as may be obtained might, however, be made a part of the death certificate.

While the fatal nature of cancer and its frequent occurrence are quite sufficient to keep alive a very potent interest in the cancer question, apart from any consideration of whether it is increasing or decreasing, such possible variation should be studied; first, because of its casting some light on the cause of the disease; and, second, because of its practical importance as necessitating (if there be an increase) more frequent operative removal or medical treatment of such moles, senile keratoses, or chronic ulcers as are apt to turn into cancer. Unfortunately, it is impossible at the present time to make a definite statement as to any increase. So many conflicting factors are present that the statistical data do not as yet furnish a final decision. Equally able men hold that there is a demonstrable increase, and that there is none. In this situation the only remedy is the improvement of our mortality records, and, however carefully these may be collected, they will never be of final value unless, first, autopsies are performed upon all those dying of disease, whether supposed to be cancerous or not, and, second, microscopic examinations are made of the suspected tissues. If these could be done, and the varieties of tumors also deter-

mined, many of the questions now apparently insoluble would be answered in a couple of decades. For besides knowing whether cancer on the whole is increasing, we must also learn whether one variety or another is becoming more frequent, or whether the organ frequency is changing. Bashford's investigation of the London Hospital records showed that autopsies and microscopic examinations increased the number of diagnosed cancers by some thirty per cent.

These microscopic methods are too complex and too time-consuming for the practitioner, even if he had sufficient knowledge to make a diagnosis when the sections were prepared; which he has not. The State, therefore, should offer the facilities for diagnosis, and when they are offered, should require the submission of suitable specimens from all cases considered cancerous.

The discussion of the second phase of public health activities will occupy the remainder of our time. As has been said there is no question that the public, and even physicians whose medical degrees date back more than twenty years, are in many cases woefully ignorant of the fact that when a cancer can be diagnosed clinically with any ease it is already approaching an inoperable condition. There is still, not only in rural districts but also in the large cities, an extraordinary amount of ignorance concerning the nature and treatment of cancer.

Let me read you a letter just received from an illiterate gentleman in Kansas, and a parallel statement recently published by a physician of reputation:

Jan. the 24, A. D. 1916.

dr francis carter wood

Dear sir I see an account in the star that there is no cure has ever bin found yet you are badly mistaken I have A cure for cancers I no this I have tested it I tell you the truth and nothing but the truth I can cure cancer of the stomich you can eat my salve It will not hurt you Mr wood you say there is 3 million dollar fund left for any man that has a cancer cure I have the onley cure on earth Dear sir I am not a student nor a doctor but if you stack up 3 million dollars so it is mine when the cancer is cured bring

on your man or woman I do not care how Bad thare ate up if the flesh is all gon off arm or leg or grate holes eat out But take a cancer when it is as big as half dollar it wont make a bad scar dear sirs I am ready to go to work Bring the patient and check, put it in the bank so it is mine when cancer is cured

From J. M. Brown,

Barlington, Kans.

answer at once

Would it be wise to permit an illiterate of this type to treat a member of your family? Yet most cancer quacks seem to be just about as well educated as Mr. Brown.

The physician says that he has clinical and statistical facts to show that carcinoma is an infection. The germ is found in the surface soil and dirt of populous districts and enters the system in the majority of cases with the food. By way of prophylaxis he recommends: That carcinoma should be considered an infectious disease. That fruits and vegetables should be sterilized before being eaten. That the use of human excrement as fertilizer should be prohibited by law. That people should be taught the infectious nature of normal stools; and that women should be taught to spend a considerable portion of their time washing their hands (perhaps instead of powdering their noses). That the number of cats and dogs should be restricted. That rats, mice, cockroaches, and other vermin should be exterminated. That all workers should wash their hands very thoroughly before eating, and should wash and disinfect their hands very thoroughly and change their working garments when they leave their work for the day. That municipal authorities should put carcinoma on the list of diseases to be reported in order that the patients may be traced and taught how to take care of themselves and their infected discharges, and that none of those living with them be allowed to handle foodstuffs for the market. That as the time seems ripe the public should be taught something concerning the erroneous notions about diet that are prevalent among the idle rich and the prosperous poor in order that they may stop manufacturing the serious forms

of gastrointestinal disease that have of late years shown such an alarming increase in frequency, the seeds of which are sown in adolescence and the fruits of which are harvested at maturity and senescence. That women who have not borne children for several years should be warned of the danger of developing carcinoma.

Very good general advice, some of this, but hardly connected with cancer or its cure. Cancer is certainly not due to a germ, and it is certainly not contagious.

Is it necessary to discuss any further the need for widespread education? There is, evidently, both in rural and in urban practice, too much palliative treatment of cancer with salves and plasters, which keeps the patient from consulting a surgeon until the growth has gone beyond the operable stage. It must be remembered, however, that it is only within the past twenty years that the fact has been recognized that in its early stages cancer is a local disease and may be removed surgically with great likelihood of a permanent cure; hence, we can not be too harsh with ignorance on this point among the members of the profession and the lay public.

The duty of health officers is plainly along the line of publicity. The average busy practitioner has no time nor ability to present interesting and valuable facts in simple language, and if he is quoted in the daily press he is often criticised for advertising. As the health officer usually does not practice, and at any rate is not wholly dependent upon his practice, he can use the press much more freely. The value of information given in simple language and without hysteria and exaggeration is enormous. Of course, the journalist always wants a "story", but if he is furnished with an interesting statement in untechnical phrases, is given a little help in working up his paragraph, and is warned that any misquotation will cut him off from a further supply of news, it will generally be found possible to gain his sympathy and cooperation so that he will publish only perfectly sane, unsensational articles. After all, these men are engaged in the

business of collecting news, and they are grateful for every opportunity. The daily papers are very sensitive to criticism and are only too glad of accurate news. A great deal of objectionable matter, which had been prepared for the columns of one of the great New York dailies by a member of the staff, was recently cut out by the owner of the paper at the request of a few medical men who represented to him the damage which he was doing by the widespread distribution of notices of quack cures for cancer and other diseases, notices which really should have gone into the advertising columns and contributed thousands of dollars to the profits of his paper—or, rather, should never have been received at all.

In addition to the publication of articles in the daily press, health bulletins should be prepared and widely circulated. The Department of Health of the City of New York publishes a very valuable weekly pamphlet, and the State Department of Health an equally valuable monthly, which contains articles by well known physicians on the special subjects on which they are authorities. In addition to issuing such printed matter, health officers should combine with County and State Societies in giving lecture courses, illustrated by lantern slides showing the appearance of cancers in early stages, and with demonstrations of suitable pathological specimens. Such talks are of great educational value to the layman and to the physician as well; and campaigns of education of this sort should be conducted by health officers and repeated at frequent intervals so that their lessons may not be forgotten. Health officers should always be prepared also to discuss sanitary matters with individuals. There are so many people who are afraid of a cancer patient because of their dread of contagion; others worry endlessly because of newspaper articles concerning heredity or "cancer villages" which they have read and misinterpreted. A word here and there to these people is not seed cast upon stony ground; they

talk to their friends and spread the news, often to an astonishing degree.

A great many people think cancer is contagious. I am getting letters all the time from women who write: "My mother has a cancer; ought I to take care of her, and ought the children to be allowed in the room?" There is absolutely no reason to think that cancer is contagious. There has never been so far as I know a definite record of any case of contagion from one person to another. If cancers were contagious, the surgeons who are operating daily would certainly contract the disease. The same is true of the possibility of infection. There is as I have said, no proof that cancer is due to a germ.

The prompt and highly gratifying results of such an educational campaign have been shown in several localities recently where, following lectures, operative clinics, and demonstrations, large numbers of patients have applied for treatment at the different hospitals. These have been sent in by physicians who had previously referred but few cases of the disease, or have come from localities which had not before furnished such material. Bloodgood has recently called attention to this question in a timely article in the Journal of the American Medical Association (February 19, 1916.)

In closing, it cannot be repeated too often that every cancer is at some period of its existence curable by operation. The only difficulty is to make the diagnosis early enough. There is no certain cure for all kinds of cancer known at the present time, except cutting the cancer out. While radium and x-ray unquestionably cure a small number of early cancers, it is not possible for us to say that they will cure all kinds of cancer, and they should not be used in the treatment of any tumor which can be removed by operation without jeopardy to the patient's life and health. They are without question the best means for the palliative treatment of inoperable or recurrent cases. Nothing else

has the slightest influence on malignant tumors. None of the widely advertised serums, bacterial extracts, or vegetable emulsions, such as "autolysin", none of these substances cure the truly malignant forms of cancer.

When we think that a cancer is a development of the body's own cells, we realize that to destroy a cancer by any chemical or drug means also to destroy the organ from which the cancer arises. People will tell you that there must be some remedy for cancer, because there is a remedy for malaria, anemia, or syphilis; but this is poor logic. Perhaps we never shall find a medical cure for cancer, and an operation will always remain the best form of treatment. Preventive methods may be discovered. The future only can decide.

The duty of the health officer, then, is to spread through the community such facts as have been sifted and studied and are unassailable, and just so far as he does this he is fulfilling his most important function, for after all the law is of little value unless people are educated to appreciate its meaning. To him is given the opportunity of great service to the future of the race.

DISCUSSION

EDWARD REYNOLDS, M. D.

Dr. Reynolds spoke briefly of the credentials of the American Society for the Control of Cancer, and stated the proposition which the Society wished to put before the health officers of the State with regard to a plan of campaign, explaining in what manner and by what means the Society and the officials could be of mutual benefit in the work.

After pointing out that the matter of dealing with cancer in its early stages was no longer speculative but one of assured knowledge, and that to obtain results, that knowledge must be spread as widely as possible, he said:

"Now what can health bodies do about that? As Dr. Wood has told us, health officers almost practically control space from their local press because what a health body chooses to say, the local press will publish, as a rule. What private individuals try to say about cancer is often not news, but anything that comes from the Health Department is news because they are taking it up. Of course the health officer is a busy man and not a special expert on cancer. How then can he give that information to the press? We will furnish him with material, if he will ask for it, from which he can select what his local press will publish. We have a regularly organized information service for health officers, and if any health officer or social worker will send his name to our executive office and ask to receive service he will find himself in prompt receipt of material of that kind for local press use. Many Health Boards of the country are taking up the publication of cancer material in their bulletins. For instance, I have here one published by the West Virginia Public Health Council, one from North Carolina, and one from the Michigan State Board of Health, which has put out a cancer number containing fourteen articles by leading men on cancer; and there is also a leaflet which is put out by the Department of Health of Newark, New Jersey, for circulation among the less intelligent, while South Orange, New Jersey, a little village really, has put out an excellent cancer leaflet for house to house distribution. We will gladly furnish material for pamphlets for such distribution.

Boards of Health may well institute lectures on health topics, and cancer is one of these. Where we can, we will advise by sending lecture notes, etc.; in fact, we will help or aid as far as we can by suggesting lecturers, or by furnishing those who may be selected, with lecture notes already in shape.

Public health nurses also should be instructed in the latest views on cancer. No one is more apt to be

consulted about an incipient thing than the nurse who is going about on public duty. Nurses will be sent any of these pamphlets if they will ask for them, and the pamphlets are arranged in succinct form for this purpose. Remember that nurses, expert trained nurses, have been in touch only with the advanced cases that they see in hospital training; they do not know the incipient stages of the disease, so they are the people of all others who should have this information, coming into contact as they do with so much of this disease among the poor.

That is the point which I wish to bring out, namely, our readiness to furnish material for publication, material which can be considered authoritative and which is in form for lay appreciation. That is the proposition which we put up to you, and we hope that you people who are in a position to help disseminate this information will take hold and spread it among the public."

EUGENE R. KELLEY, M. D.

The subject has been so thoroughly covered by the previous speakers that very little is left to be said from the stand-point of the Health Department except to register our appreciation of the importance of the problem and our readiness to do whatever is in our power. I may say that I had prepared some notes on the statistical side, the educational side, and the "judicial" side of the subject, but the previous speaker has covered them so exhaustively that I shall spend only a few minutes in commenting on a few thoughts that came to me during his remarks.

First of all, there are certain general fundamental principles of health administration work that I think are not always borne in mind by the propagandists or people working exclusively on any special cause.

Another, and the most hopeful thing about cancer campaigning, is the fact that it is now generally admitted to be a public health administrators' problem. A few years ago that point was not grasped.

Now for a moment let us disregard cancer as a particular problem and consider what a Health Department's position is as regards health problems en masse. The health officials must give thought to the relative weight of any individual problem; that means: how big a factor is it in the mortality returns? This point being first determined, the next thing is: what is the prospect of immediate returns after constructive work is done? Next, what is the prospect of remote returns? Then, what is the relative availability of funds for this particular purpose? Assuming that there are funds, what is the relative cost of doing efficient work? And the last but most important point is: how great is the popular demand for this type of work? Upon that will depend the amount of money available to carry it on.

What then is the relative weight of the cancer problem? It is one of the great problems. I think it is an almost inescapable fact that we have good grounds for believing that there is a real increase in cancer. The figures in our own State will indicate that. I doubt very seriously if the use of the microscope has added anything like 20 per cent. to the efficiency of diagnosis in Massachusetts since 1900. Yet the rate has increased from 74.6 in that year to 113 per 100,000 of population in 1913. There is also a great increase in the actual number of deaths; from 2,183 in 1900, to 3,197 in 1913, and if we reflect we will see that this is practically in the ratio of two to three. The population during the same years increased at the rate of about 15 per cent., so even allowing for the increase in population, there is certainly an increase of somewhere around 15 per cent. in cancer, and I can scarcely believe that all of that is *apparent*. We may say, then, that it is a real problem as a mortality question. It rates about 33 per

cent. in importance as compared with infant mortality; less than 33 per cent. as compared with organic heart disease, and about 50 per cent. as compared with tuberculosis. On the other hand, it is important to remember that cancer is an old age problem. Many of the patients whose death certificates are made out as cancer, probably would very soon have died of something else, which fact is all important to remember in considering cancer mortality statistics, and in all attempts to estimate relative absolute life saving efficiency of any line of health work.

This all shows the way the Health Department has to look at these things. Infant mortality is the greatest example we have of relatively great immediate returns. It has well been called the bargain counter of philanthropy. In that branch of work, a small amount of money plus intelligent direction can save more lives than in any other. Now, somewhere in among these problems, I think perhaps not as great as either infant mortality or tuberculosis, but following pretty well after, is the question of cancer.

There are about six or seven simple aphorisms which, if we could hammer and instil them into all the active mental processes of all the adult citizens of our country, would reduce the fatality of cancer probably about 33 per cent. This sounds simple; but if only women could be taught that any discharge after the climacteric is serious, and that any lump that appears after thirty-five years of age, should be examined, we would be doing something. One great reason why it is so hard to educate the public is that it is hard to rid them of another aphorism, an old one, namely, that all cancers are hopeless. To eradicate this popular fallacy sounds easy, but it is not quite so simple. In the first place, it requires money. In the second place it requires further missionary work amongst the people who come forward to stand sponsor for this thing. Organizations like this can probably persuade our legislative bodies

that this is a legitimate field of health department work. Probably that lesson applies somewhat to the health departments themselves.

Now, along about this place comes up the question as to the infallibility of the Health Department in relation to the public press. I heartily wish that we might have better success in getting good articles into the newspapers. The principal reason that we fail is that we lack the journalistic training. If I should make any criticism of these excellent pamphlets that are published in regard to cancer, it would be that they are written too much along the plan of Gibbons' *Decline and Fall of the Roman Empire* and too little like the headlines of the *New York Journal* and the *Boston American*.

Another problem on the educational side of this matter lies within the medical profession itself. It is a pretty good saying about the mote in our brother's eye and the beam in our own eye, and I think there are several beams to be removed from the ocular apparatus of the medical profession. There is a certain type of physician,—there are really three separate types, sometimes occurring in different individual physicians and sometimes rolled into one man, who then is a dangerous person. These are the "wait-and-see" cancer doctor, the "diagnose-it-by-the-appearance-of-the-throat" doctor and the "opiate-for-a-cough" doctor.

I do not know how many of you have had the experience, but to me it is disheartening to go into a cancer clinic and run over the individual case histories that you see there on the specimen jars. For instance, Dr. So and So treated this case for chronic indigestion, then referred it as a possible cancer of the stomach; another watched a "lump" in the breast for eighteen months, and then thought exploratory extirpation was perhaps the admissible thing. And so we have this tremendous possibility of educating the medical profession.

Outside of that there is another field among the members of what may be called the ancillary healing professions from whom the general public receive a great deal of advice, some good and some bad. These professions comprise pharmacists, dentists, and nurses. We would be neglecting a great item in our campaign in the medical profession if we failed to impress on these other professions that we should teach them much more than the general public and only one degree less than the medical profession itself. They must be taught to realize that these suspicious cases should be referred to surgeons competent to give advice.

There is one other little point, not a great one at all, but perhaps worthy of a little mention, and that is the question of cancer lectures. All of us that have had any experience at all in popular lectures on tuberculosis have noted that the public begins to exhibit after a little while a great deal of mental hysteria in reference to tuberculosis lectures. I am not certain about this in regard to cancer; I do not know that any cultivation of this fear of cancer is lost effort, and perhaps it is perfectly safe to scare the people on that subject, but on the other hand, I have had a little experience myself, and I don't think it is very easy to take a general mixed audience and make a cancer talk exactly fascinating. Some can do it, but it is difficult. Dr. Wood spoke of the work he did in Vermont, but perhaps there is a more appreciative field in Vermont where the age limit is higher. We started to put out an individual lecture on cancer, but it was a sad affair, and we finally decided to combine it with the so-called "wear-and-tear" diseases, and I really think in the long run we can get more of these simple points in regard to cancer into circulation by running them in, so to speak, in connection with some other things, than by calling a meeting especially for cancer.

These very simple things have been said over and over again, but it is the very simplicity of them that

really appalls us. The means are so simple that it amounts just to getting our fellow citizens to realize and follow a half dozen aphorisms. The possibilities of such education are so great that they challenge our credence, and yet we conclude that if carried out and acted upon, such cancer education will reduce the cancer mortality by at least 33 per cent., possibly 66 per cent.

When we have through these simple measures before us in the form of educational work such great possibilities of saving human life, when we consider this greatly increasing and needless wasting of human life, we certainly must all enlist to the very best of our ability in the cancer campaign. There is no need to make expert pathologists of our wage earners, either, to gain our ends.

To summarize, I have jotted down these few things which are not new but which seem to me pretty nearly to cover the educational field: First, early cancer is curable; second, pain is a late symptom; third, any irritation in the body is worthy of investigation; fourth, any lump in the breast and any discharge after the menopause need careful investigation; fifth, any external sore especially in the lip should be examined (and in this connection we cannot say that any age is absolutely immune from cancer); and, last, the truth is not that surgery is the risk, which is what the public believe, but that *delayed* surgery is the risk.

The problem that still remains is how to get it over to the people. There was one other aspect that was very little touched upon where I believe that Health Departments do have a rather important function, and that is in serving in a sort of advisory or judicial capacity to the general public concerning quacks. They can do more service to the public in these lines. And another line in which they should be of service is in quieting people's minds when they get one of these waves of excitement over some new cure.

Then, too, there is the question of research. Under certain circumstances possibly something of that sort is justifiable in the Health Department, but remembering how small the funds are and remembering how great the returns from infant mortality and tuberculosis work, it seems to me very questionable whether many Health Departments are justified in spending one cent in research work for cancer. There are two great reasons for this; first, the field is well covered by these specially endowed cancer institutes and the high research work carried on by universities and medical schools; and second, because we can use the same money better in telling the people what we already know about cancer.

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